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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/828,041      | 04/07/2001  | Jeffrey G. Hargis    | 10004121-1          | 5760             |

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HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
P.O. Box 272400  
Fort Collins, CO 80527-2400

EXAMINER

KIM, HONG CHONG

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2186

DATE MAILED: 09/22/2003

4

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/828,041

Applicant(s)

HARGIS ET AL.

Examiner

Hong C Kim

Art Unit

2186

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 28 and 36-42 is/are allowed.
- 6) ☒ Claim(s) 1-6, 9, 12-16, 19, 22, 27, 29, 30 and 33 is/are rejected.
- 7) ☒ Claim(s) 7, 8, 10, 11, 17, 18, 20, 21, 23-26, 31, 32, 34 and 35 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2&3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

### Detailed Action

1. Claims 1-42 are presented for examination. This office action is in response to the application filed on 4/07/2001.

### *Information Disclosure Statement*

2. Receipt is acknowledged of information disclosure statements filed on 4/7/01 and 1/6/03, which the statements have been placed of record in the file. Information disclosed and listed on PTO 1449 were considered.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 1-6 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by CD4018B CMOS counter, TI Data Sheet, 1998 or rejected under 35 U.S.C. 102(a) as being anticipated by Manning U.S. Patent No. 6,230,245.

As to claim 1, CD4018B discloses the invention as claimed. CD4018B discloses strobe receiver circuitry (Fig. 1), comprising: a) a counter (Fig. 1), said counter updating a count in

response to strobe edges of received strobe signals; and b) counter control logic (Fig. 15), said counter control logic enabling (Fig. 15 Ref. Preset) said counter before each strobe signal is received by generating control signals asynchronously with respect to said received strobe signals; and said counter control logic resetting said counter after each strobe signal is received by receiving feedback from said counter (Fig. 17) and, in response to said feedback, resetting said counter asynchronously with respect to said received strobe signals (Fig. 17).

Alternatively, Manning discloses the invention as claimed. Manning discloses strobe receiver circuitry (Fig. 3) , comprising: a) a counter, said counter updating a count in response to strobe edges of received strobe signals (col. 2 lines 19-21); and b) counter control logic, said counter control logic enabling (Col. 2 lin 40-42) said counter before each strobe signal is received by generating control signals asynchronously with respect to said received strobe signals; and said counter control logic resetting said counter after each strobe signal is received by receiving feedback from said counter (col. 2 lines 40-42) and, in response to said feedback, resetting said counter asynchronously with respect to said received strobe signals (col. 5 lines 62-65).

As to claim 2, CD4018B further discloses control signal is a fixed width pulse (Fig. 17, divide counter reads on this limitation). Manning further discloses control signal is a fixed width pulse (col. 5 lines 62-65, terminal count).

As to claim 3, CD4018B further discloses said control signal comprises start and stop conditions (Fig. 17, preset and divide counter read on this limitation). Manning further discloses said control signal comprises start and stop conditions (Fig. 5 and col. 2 lines 40-43).

As to claim 4, CD4018B further discloses said start and stop conditions are, respectively, falling and rising signal edges (Fig. 17, preset and divide counter read on this limitation). Manning further discloses said start and stop conditions are, respectively, falling and rising signal edges (Fig. 5 and col. 2 lines 40-43).

As to claim 5, CD4018B discloses the invention as claimed. CD4018B discloses strobe receiver circuitry (Fig. 1), comprising: a) a counter (Fig. 1), said counter updating a count in response to strobe edges of received strobe signals; and b) counter control logic (Fig. 15), said counter control logic enabling (Fig. 15 Ref. Preset) said counter before each strobe signal is received by generating control signals asynchronously with respect to said received strobe signals; and said counter control logic resetting said counter after each strobe signal is received by i) receiving feedback from said counter (Fig. 17), ii) generating stop conditions, and iii) in response to said feedback and stop conditions, resetting said counter asynchronously with respect to said received strobe signals (Fig. 17).

Alternatively, Manning discloses the invention as claimed. Manning discloses strobe receiver circuitry (Fig. 3), comprising: a) a counter, said counter updating a count in response to

strobe edges of received strobe signals (col. 2 lines 19-21); and b) counter control logic, said counter control logic enabling (Col. 2 lin 40-42) said counter before each strobe signal is received by generating control signals asynchronously with respect to said received strobe signals; and said counter control logic resetting said counter after each strobe signal is received by i) receiving feedback from said counter (col. 2 lines 40-42), ii) generating stop conditions, and iii) in response to said feedback and stop conditions, resetting said counter asynchronously with respect to said received strobe signals (col. 5 lines 62-65).

As to claim 6, CD4018B further discloses each received strobe signal consists of a multiple of P strobe edges ( $P \geq 2$ ), (Fig. 15, clock input) and wherein: a) said counter is a rollover counter counting to P (Fig. 17, divide counter reads on this limitation); and b) said counter control logic generates said stop conditions during receipt of a last P strobe edges of each strobe signal (Fig. 17, divide counter reads on this limitation). Manning further discloses each received strobe signal consists of a multiple of P strobe edges ( $P \geq 2$ ) (Fig. 5, CLK), and wherein: a) said counter is a rollover counter counting to P (col. 5 lines 62-65, terminal count); and b) said counter control logic generates said stop conditions during receipt of a last P strobe edges of each strobe signal (col. 5 lines 62-65, terminal count).

As to claim 9, CD4018B further discloses said start and stop conditions are generated on a single signal line (Fig. 15 preset). Manning further discloses said start and stop conditions are

generated on a single signal line (Fig. 5).

5. Claims 12-16, 19, 22, 27, 29-30, and 33 are rejected under 35 U.S.C. 102(a) as being anticipated by Manning U.S. Patent No. 6,230,245.

As to claim 12, Manning discloses the invention as claimed. Manning discloses memory controller receiver circuitry (Fig. 3) , comprising: a) a data pad and a strobe pad (Fig. 10); b) P storage elements coupled to receive data from said data pad ( $P \geq 2$ ), (Fig. 10 Ref. 190) said P storage elements being controlled by respective values of a count; c) a counter (Fig. 3 and col. 2 lines 19-21), said counter updating said count in response to strobe edges of received strobe signals; and d) counter control logic, said counter control logic enabling (col. 2 lin 40-42) said counter before each strobe signal is received by generating control signals asynchronously with respect to said received strobe signals; and said counter control logic resetting said counter after each strobe signal is received by receiving feedback from said counter (col. 2 lin 40-42) and, in response to said feedback, resetting said counter asynchronously with respect to said received strobe signals (col. 5 lines 62-65).

As to claim 13, Manning further discloses control signal is a fixed width pulse (col. 5 lines 62-65, terminal count).

As to claim 14, Manning further discloses said control signal comprises start and stop

conditions (Fig. 5 and col. 2 lines 40-43).

As to claim 15, Manning further discloses said start and stop conditions are, respectively, falling and rising signal edges (Fig. 5 and col. 2 lines 40-43).

As to claim 16, Manning discloses the invention as claimed. Manning discloses memory controller receiver circuitry (Fig. 3) , comprising: a) a data pad and a strobe pad (Fig. 10); b) P storage elements coupled to receive data from said data pad ( $P \geq 2$ ), (Fig. 10 Ref. 190) said P storage elements being controlled by respective values of a count; c) a counter (Fig. 3 and col. 2 lines 19-21), said counter updating said count in response to strobe edges of received strobe signals; and d) counter control logic, said counter control logic enabling (col. 2 lin 40-42) said counter before each strobe signal is received by generating control signals asynchronously with respect to said received strobe signals; and d) counter control logic, said counter control logic enabling said counter (col. 2 lin 40-42) before each strobe signal is received by generating start conditions asynchronously with respect to said received strobe signals; and said counter control logic resetting said counter after each strobe signal is received by i) receiving feedback from said counter, ii) generating stop conditions, and iii) in response to said feedback and stop conditions, resetting said counter asynchronously with respect to said received strobe signals (col. 5 lines 62-65).



As to claim 19, Manning further discloses each received strobe signal consists of a multiple of P strobe edges, and wherein: a) said counter is a rollover counter counting to P; and b) said counter control logic generates said stop condition during receipt of a last P strobe edges of each strobe signal (Fig. 5 and col. 2 lines 40-43).

As to claim 22, Manning further discloses said start and stop conditions are generated on a single signal line (Fig. 5).

As to claim 27, Manning further discloses wherein  $P=4$  (Fig. 10 Ref. 190).

As to claim 29, Manning discloses the invention as claimed. Manning discloses a method of receiving strobe signals into a memory controller (Fig. 3), comprising: a) enabling a strobe edge counter (col. 2 lin 40-42) asynchronously with respect to said strobe signals, before each strobe signal is received, and in response to a start condition; and b) resetting said strobe edge counter asynchronously with respect to said strobe signals, after each strobe signal is received, and in response to a combination of counter feedback and a stop condition (col. 5 lines 62-65).

As to claim 30, Manning further discloses each received strobe signal consists of a multiple of P strobe edges ( $P \geq 2$ ), and wherein said counter is a rollover counter counting to P, the method further comprising: generating said stop condition during receipt of a last P strobe

edges of each strobe signal (col. 5 lines 62-65).

As to claim 33, Manning discloses the invention as claimed. Manning discloses a method of receiving data into a memory controller (Fig. 3), comprising, during a memory read cycle: a) enabling a counter (col. 2 lin 40-42) asynchronously with respect to a strobe signal, before the strobe signal is received at a strobe pad, and in response to a start condition; b) storing respective data bits received at a data pad in P storage elements ( $P \geq 2$ ) (Fig. 11 Ref. 180) , in response to a count produced by said counter; and c) resetting said counter asynchronously with respect to said strobe signal, after the strobe signal is received, and in response to a combination of counter feedback and a stop condition (col. 5 lines 62-65).

#### *Allowable Subject Matter*

6. Claims 28 and 36-42 are allowed.
7. Claims 7-8, 10-11, 17-18, 20-21, 23-26, 31-32, and 34-35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### *Conclusion*

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See attached PTO-892.

9. a shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) days from the mail date of this letter. Failure to respond within the period for response will result in **ABANDONMENT** of the application (see 35 USC 133, MPEP 710.02, 710.02(b)).

10. When responding to the office action, Applicant is advised to clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. He or she must also show how the amendments avoid such references or objections. See 37 C.F.R. § 1.111(c).

11. When responding to the office action, Applicants are advised to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist examiner to locate the appropriate paragraphs.

12. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Hong Kim whose telephone number is (703) 305-3835. The Examiner can normally be reached on the weekdays from 8:30 AM to 5:00 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Matt Kim, can be reached on (703) 305-3821.

Any inquiry of a general nature or relating to the status of this application should be

directed to the Group receptionist whose telephone number is (703) 305-3900.

13. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to TC-2100:**

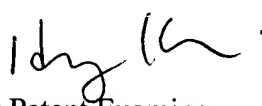
After-Final (703) 746-7238

Official (703) 746-7239 (for formal communications intended for

entry)

Non-Official/Draft (703) 746-7240 (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

HK   
Primary Patent Examiner  
September 14, 2003